

What is claimed is:

1. A silent chain and sprocket assembly  
comprising:

a sprocket having a plurality of low profile  
protrusions extending outwardly from said sprocket at  
5 locations spaced along an outer periphery of the  
sprocket;

a silent chain having a series of interleaved inner  
and outer link rows that are interleaved along a chain  
direction;

10 adjacent inner and outer link rows are joined to  
each other by members extending through interleaved  
portions of adjacent inner and outer link rows to form a  
rotatable joint between the adjacent inner and outer link  
rows;

15 the links of said inner and outer link rows form a  
surface that overlies the sprocket protrusions and  
conforms closely to said low profile protrusions on said  
sprocket; and

the link surface extending along the chain direction  
20 a distance substantially the length of the link along the  
chain direction.

2. The silent chain and sprocket assembly of claim 1  
wherein the surface of the links that is sized to overlies  
the low profile protrusions of the sprocket is at a back-  
side of the chain.

3. The silent chain and sprocket assembly of claim  
2 wherein the links have a surface that defines two teeth  
extending from the link at a front-side of the chain.

4. The silent chain and sprocket assembly of claim  
1 wherein the surface that overlies the sprocket  
protrusions extends along the chain direction of the  
links a distance that approximates the distance from a  
5 center of a member joining the link to one adjacent row  
of links to a center of a member joining the link to  
another adjacent row of links.

5. A silent chain and sprocket assembly  
comprising:

a front-side sprocket, said front-side sprocket  
having a plurality of teeth spaced about an outer  
5 periphery of said front-side sprocket;

a back-side sprocket, said back-side sprocket having  
a plurality of small, low profile, protrusions spaced  
about an outer periphery of said back-side sprocket;

a silent chain having a front-side and back-side,  
10 said front-side of said chain engaging said front-side  
sprocket and said back-side of said chain engaging said  
back-side sprocket;

the chain having link plates forming inner and outer  
link rows, said inner and outer link rows interleaved  
15 along a chain direction;

the link plates having a front-side at the front-  
side of the chain, and a back-side at the back-side of  
the chain;

the link plates forming two apertures spaced along  
20 the chain direction;

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the link plates forming two teeth to engage a tooth of said front-side sprocket at an end of the link along the chain direction, to engage a second tooth at another end of the link along the chain direction, and to engage  
25 a third tooth intermediate the teeth at the ends of the link plate;

the link plates defining a back-side surface that conforms closely to a portion of the back-side sprocket extending a distance substantially equal to a length of  
30 the link plates along the chain direction.

6. The silent chain and sprocket assembly of claim 5 wherein the low profile protrusions of the back-side sprocket are formed by two sprocket surfaces that meet at the protrusion and extend oppositely from each other  
5 along the periphery of the back-side sprocket from a first end to a second end a distance that is approximately the length of the back-side surface of the link plates.

7. The silent chain and sprocket assembly of claim 6 wherein the back-side sprocket surfaces are generally flat.

8. The silent chain and sprocket assembly of claim  
6 wherein the back-side sprocket surfaces are generally  
flat between the first and second ends, and that extend  
outwardly from the back-side sprocket near their first  
5 and second ends.

9. The silent chain and sprocket assembly of claim  
5 wherein the back-side surfaces of the link plates  
closely conform to the low profile protrusions along the  
back-side sprocket, to the back-sides formed to extend  
5 along the periphery of the sprocket to overlie a  
protrusion.

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